



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,852	11/07/2001	Shigeki Mori	712-032	1854
47888	7590	10/03/2005	EXAMINER	
HEDMAN & COSTIGAN P.C. 1185 AVENUE OF THE AMERICAS NEW YORK, NY 10036			PADGETT, MARIANNE L	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/019,852	MORI ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Marianne L. Padgett	1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 September 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 4,5,8-11,15 and 19-29 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 4,5,8-11,15 and 19-29 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 1762

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/1/05 has been entered.

2. The amendment filed on 12/10/04 (or 3/8/04 or Rule 34) remains objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure is as follows:

As set forth in the action mailed 3/30/05, changing the density range from "1.2 to 2.3" to --1.2 to 1.6--, was NOT supported by the values in table 6, as their meaning is described in Ex. 3, especially on p. 35, applies only to DLC coatings as deposited over different defined surfaces of a bottle, do not appear to be providing a range as amended in a broadly stated concept as amended in the objectives (p.10-11). The value of 1.59 g/cm<sup>3</sup> which applicant's have rounded to 1.6 is the density produced only in test No. 9 on the bottom portion of the bottle, while the middle potion has 1.22 g/cm<sup>3</sup>, but the top or shoulder potion has 2.09 g/cm<sup>3</sup>, so the range of densities supported by this example are for a variation over a single bottle in a single example (only 1 sample evident/test), not a range that may be applied in general by the process to any part of the bottle, let alone any molded object, as implied by the previously amended objectives on pages 10 and 11. Therefore, the change in range and context in the amendment of p.10 & 11 on 12/10/04 (or 3/8/04 or Rule 34) is still considered to include New Matter. Note the original range as disclosed on p.12, lines 11-15 of the original specification, i.e. 1.2-to 2.3g/cm<sup>3</sup> included both the maximum and minimum density values from the three portions of examples 9 and 10 combined, hence as such in the original context, read in light of the table 6, disclosed a possible range of density variation over the

Art Unit: 1762

surface of the bottle. While this is a subtle difference, it is not at all the same thing as the change made by this amendment.

With respect to changing “16 to 52 hydrogen atomic %” to --39 to 50... -- (p.10) or --39 to 52-- (p.11 of specification), the examiner agrees that “16 to 52 hydrogen atomic %” phrasing is seen in original claims 13, 14, 17 & 18, plus original specification, hence is not New Matter by its self, but is not supported in the combinations of data with which it is amended to be discussed with, i.e. the hydrogen atomic % does not exist by its self, and none of the original claims or disclosure or test examples 11 & 12 from which they derive, were combined with vales as presently listed on p. 10-11, hence in the context of the amended paragraphs, remains New Matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

3. The amendment filed on 9/1/05 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows:

On p. 37, the amendment inserting “the density...averages 1.63 g/cm<sup>3</sup>” can be considered New Matter as it incorrectly describes results derived from Table 6. Specifically, only the part densities of test No. 9 have the amended average, so it does not generally apply as the phrasing implies. One can add calculated values that come from supplied raw data to prose in the specification, but one must be careful not to make generalizations that are broader than the original disclosure; hence would encompass New Matter. For instance, it would be accurate to say --depending on ...power applied, how it is applied, and... the density over the inner surface was seen to ...average 1.57 or 1.42 or 1.63 or 1.93 g/cm<sup>3</sup>-- or some similar phrasing.

Applicant is required to cancel the new matter in the reply to this Office Action.

Art Unit: 1762

4. Claims 15, 19 & 24-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The product claims have a number of enablement problems.

With respect to "16 to 52 hydrogen atomic %" in claims 15, 19, 24, 25 & 29, and to "39 to 52..." in claim 28, the former derives its context and any enablement from both the tests no.11 & 12 in table 7, which are restricted to coating processes preformed applying HF only to the bottom electrode, while the latter appears to derive its values only from #12 with 1200 W power to the bottom electrode only. It was also noted that the 2 tests of table 7, discussed on p. 39 to 40 (Ex. 4), were over one bottle with the H atomic % varied (shoulder, body, bottom) from 16.1 – 28.6 % (#11) or from 51.9 to 35.8 % (#12), and where again the density varied over various parts of the body from 1.2 to 2.3 gm/cm<sup>2</sup>. It is unclear if each test represents one sample or many at the same parameters, especially with table 7's listing of %H under plural coating densities for most the various bottle sections. The density and thickness values in most these claims (except claim 19) come from the table 6, tests 7 or 8, that apply power to the WHOLE bottle, hence are NOT values from equivalent deposition techniques, & the original specification is not considered to enable creation of such a combination of values to be created, nor does it provide support therefore, .ie. these combinations lack enablement (& are New Matter) as written.

In claim 19, the "1.63 gm/cm<sup>2</sup>..." comes from test #9 with 800W to the bottom electrode, but the "16 to 52" % H comes from both tests # 11 (800W) & 12 (1200W), so only the 16.1 to 28.6 at.% H portion of the range from #11 appears to be enabled by the original specification & the rest is non-enabled by the written description [&New Matter].

The tests that provide the enablement for claimed values, even though they inappropriately mix test results, are ONLY produced on bottles with shoulder, body & bottom configuration, thus a particular

Art Unit: 1762

pattern of variation in shape, hence do not enable like deposition (or corrected to all come from the same test) on generic shapes with unspecified configurations. While p.37 states that there is no significant differences between density on different [bottle] parts, table 6 [or 7] do not provide the examiner with sufficient statistical analysis to come to this conclusion, as differences of 2.09 g/cm<sup>3</sup> on the shoulder with 1.22 g/cm<sup>3</sup> on the body (test 9) or 2.30 g/cm<sup>3</sup> on the shoulder with 1.48 g/cm<sup>3</sup> on the bottom (test 10), do not necessarily seem insignificant, nor consistent between different power tests. The comparative tests 7 & 8 show less variation in coating density, but cannot be claimed with H-density from “bottom” only test. This case is a 371, so the examiner was essentially required to leave the product claims with the method & apparatus, but if applicants (clearly) claim products from a different invention than the method & apparatus claimed, restriction will be required.

After careful consideration & consultation, it has been concluded that while the claim of averaged values from table 6 with standard deviations contains less lack of enablement (& New Matter) than just the average value alone, it still lacks of enablement (& is New Matter), because the averages still encompass value variations from differing parts of the bottles that are not supported by the original specification, i.e. while all the “bottom” test results have the largest density values for the shoulder, the average as claimed can include variations with the largest value at the “bottom” or “body”, which is not supported by the data as presented & there is no clear evidence in the original specification that the variation is not effected by location. Note that the number of significant figures claimed in the values is not supported for more than 3.

4). Claims 15, 19 and 24-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Art Unit: 1762

See above discussion in section 3. Also even if the specific ranges were shown or amended to be supported, there is no supported enablement to producing such coating on any other type of molding than the disclosed containers (bottles) with shoulder, body & bottom, hence the claims are broader than the scope of the enabling disclosure, thus introduce new matter in that respect also for combinations of characteristics not previously claimed.

5. Claims 4-5, 8-11 & 20-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In deleting the lines from the paragraph bridging p.20-21, applicants appear to have removed the support & enablement for the limitations of “an insulator or resistive or capacitive elements” or the like in the apparatus & method claims. (Note use of the article “an” does not agree with the plural noun “elements”. The grammar may be corrected by deleting --an--.) It is also noted that deleting disclosure in the specification is NOT an effective means of limiting a broad limitation in the claims, as applicants appear to believe by their arguments on p. 11 of the remarks. Consequently, claims 4, 5, 9-11 which do NOT require capacitive coupling still read on options such as O-rings of insulating material positioned between electrode segments, where the power connection/input is to the bottom electrode, a configuration that is not enabled by the original specification.

Applicants’ discussion of a “gap” is nowhere necessitated in these claims & these configurations as amended (except claim 4’s shoulder) still encompass electrode sections whose sides may overlap laterally instead of one being above the other as illustrated, which is inclusive of non-enabled [& New] subject matter.

6. Applicants’ amendments to the apparatus & method claims have clarified the language & removed the 112 2<sup>nd</sup> rejections.

Art Unit: 1762

7. Claims 4-5, 8-11 and 20-23 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for when the second electrode is above the upper edge of the first in the claimed relationship to the bottom/first electrode, when the containers are viewed in an upright position, does not reasonably provide enablement for the electrodes overlapping adjacent to the side of the container with the interposing [insulator...] element in between. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. See above discussions in sections 5.

8. Claims 4 3-5 & 9-11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for when the interposed insulation or resistive or capacitive element enables and/or effects a difference in power application or distribution, such that the effective power applied to the first outer electrodes is higher than that which reaches or effects (e.g. by capacitive-coupling) any of the other outer electrodes, does not reasonably provide enablement for interposed elements that have no necessary effect on the energization of the various electrode segments (e.g. O-rings). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

As presently written, the interposed element can still be at any place that might be considered to meet the criteria of between the electrode sections, but they need have no effect on the electrical conductivity between those segments. For example, sections of electrodes might employ an o-ring to create an air tight seal when joined, but be configured so that the sections are in electrical contact, thus not producing a gap which effects an insulating effect as required by the teaching of the specification (p.14 and 17). Thus, merely reciting the presence of this feature does not insure it is used in the process to produce the needed effect of the taught invention. Also see discussion in section 5.

9. Claims 11 & 22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the

Art Unit: 1762

claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

In claim 11, as phrased the requirement of "wherein lower power is applied to outer electrodes other than the first outer electrode" is inclusive of connecting a power terminal thereto which is excluded by the independent claims, hence this limitation encompasses improperly broadened scope.

Claim 22 is an improper multiply dependant claim, as it depends from claim 20, which is already multiply dependant.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Art Unit: 1762

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 4-5 & 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimamura (JP 10-226,884), optionally further in view of Zenitani Toshihiro et al (JP 11-256,331), discussed in sections 6-7 & 12 of the papers mailed 11/10/03 & 3/30/05, respectively.

Note claims 8 and 20-23 require capacitive coupling between portions of the segmented electrode or capability in the apparatus & are excluded from this rejection, while claims that still encompass the O-ring option remain under rejection.

12. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimamura (WO 98/37259) considering USPN 6,294,226 B1 the national stage as a translation, discussed in sections 8-10 & 13 of the papers mailed 11/10/03 & 3/30/05, respectively.

The amended claims 4-5, 8-10 & 20-23 now require HF power to be only applied to the bottom (i.e. first) outer electrode, but claim 11 ambiguously reinserts the possibility of powering the other electrodes by unlimited means, hence may be considered to still be covered as discussed in the prior actions.

13. Claims 19, 27 & 29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tomaswick et al (4,809,876).

Applicant's amendment of the product claims introduce new variations of new matter therein, but can be considered differentiated for claims 15, 24-26 & 28 from Tomaswick et al (4,809,876) whose range of densities from 1.7-1.8 g/cm<sup>3</sup> differs from  $1.42 \pm 0.048$  g/cm<sup>3</sup>, but overlaps with  $1.57 \pm 0.274$  or  $1.63 \pm 0.44$  gm/cm<sup>3</sup>. The unsupported combination with atomic % H is still covered by Tomaswick et al, as less than 50 at. % H is inclusive of values in the new ranges of 39 to 52 (50) or 16-52. Thus, the amendment of 9/1/05 reinstates the rejection over Tomaswick et al, of section 11 in the paper mailed 11/10/03 for claims 19, 27 & 29.

Art Unit: 1762

The 102/103 aspect is included as it is uncertain as phrased if the claims are directed to average values on a single product or to a range of values that may be deposited on plural products. It would have been obvious to one of ordinary skill in the art that over large areas & varying configurations that may be found in containers, that some deviation would occur, however given the narrow range of densities disclosed, it would have been expected to have been reasonably controlled to within claimed tolerances.

The option of range does not require a 103 discussion.

14. Claims 15, 19, 24-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As noted above in section 14, the product claims are ambiguous as to whether the values + standard deviation represent averages or variations over a single product or ranges that apply as a whole to products in general.

15. Claims 19, 27 & 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 5-6, 9-10, 13-14, 17-18, 21-22, 25-26, 29-30, 33-34, 37-38, 41-42 & 45-46 of U.S. Patent No. 6,805,931 B2 in view of Tomaswick et al (4,809,876).

The copending cases to Nagashima (6,805,931 B2) has claims 5-6, 13-14, etc., with overlapping density & thickness values, but no claims to %H, however Tomaswick et al (4,809,876) discussed in section 13 above has values overlapping with the patent deposited on containers, but also has claimed %H values, hence it would have been obvious to one of ordinary skill in the art to produce coated products with this characteristic also, as they are shown to be desirable & effective on like substrates, & Tomaswick et al, like Nagashima is also depositing via a plasma process, so like deposition capabilities would have been enabled.

16. Claims 4-5 & 9-11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6-17 of copending Application No.

Art Unit: 1762

10/452,208 in view of Shimamura (884 or WO) as discussed in section 17 of the action mailed 3/30/05 & above.

This is a provisional obviousness-type double patenting rejection.

17. Applicant's arguments filed on 9/1/05 and discussed above have been fully considered but they are not persuasive.

18. Claims 8 and 20-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> or 1<sup>st</sup> paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Note claim 22 also needs 6<sup>th</sup> paragraph objection corrected.

19. Hama et al (6,924,001 B2), Darras et al (6,919,114 B1) & Outreman et al are of interest for further (DLC) bottle coating, plasma techniques & apparatus, but are varying techniques & not prior art.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MLP 9/27&28/2005



MARIANNE PADGETT  
PRIMARY EXAMINER